Applicable or Relevant and Appropriate Requirements (ARARs)

Discharges to Waters and Groundwater of the State at Rivermines, St. Francois County, Sec. 12, T36N, R4E, and part of Sec. 7, T36N, R5E.

The Missouri Department of Natural Resources' Water Pollution Control Program (WPCP) hereby establishes Applicable or Relevant and Appropriate Requirements (ARARs) for the discharges related to the Doe Run, Lead Belt Material Company.

Applicable requirements, as defined in 40 CFR 300.5, means those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under federal environmental or state environmental or facility siting laws that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance found at a CERCLA site. Further, relevant and appropriate requirements means those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under federal environmental or state environmental or facility siting laws that, while not regulated by a state operating permit under the Clean Water Law, nor specific to a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance at a CERCLA site, address problems, or situations sufficiently similar to those encountered at the CERCLA site and are well suited to the particular site.

Missouri was granted National Pollutant Discharge Elimination System authority by the Environmental Protection Agency in 1974. The State thus has its own laws and pursuant regulations: the Missouri Clean Water Law (Chapter 644, RSMo) and the Code of State Regulations (10 CSR 20-6, 20-7, and 20-8).

The Doe Run Resources Corporation (the discharger) has submitted a permit equivalent application with the understanding that the WPCP would develop appropriate water quality limits and requirements. The WPCP has reviewed state laws and regulations to determine the following ARARs for this site. These ARARs are not a permit per se. However, their intent is to insure that the discharger complies with the substantive requirements of Missouri's Clean Water Law and Regulations.

The Comprehensive Environmental Response, Compensation, and Liability Act of 1980(Superfund) (P.L. 96-510) as amended by The Superfund Amendments and Reauthorization Act of 1986 (P.L. 99-499) states, in part, that the State may enforce any Federal or State standard, requirement, criteria, or limitation to which the remedial action is required to conform under this Act in the United States district court for the district in which the facility is located.

These ARARs only authorize discharge of stormwater under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; they do not apply to other regulated areas.

December 12, 2003
Effective Date

Jim Hull, Director
Water Pollution Control Program

STATE OF MISSOURI

DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION

Applicable or Relevant and Appropriate Requirements

Number:	MO-ARAR012
Owner:	The Doe Run Resources Corp., Southeast MO Mining & Milling Div.
Owner's Address:	PO Box 500, Viburnum, MO 65566
Facility Name:	Doe Run, Lead Belt Material Company
Facility Address:	600 Mill, Elvins, MO 63601
Legal Description:	All or parts of Sec. 12, T36N, R4E, and Sec. 7, T36N, R5E, St. Francois County
Receiving Stream:	Unnamed Tributary to Flat River Creek (U)
First Classified Stream and ID:	Flat River Creek (C)(02168)
USGS Basin & Sub-watershed No.:	(7140104-010005)

FACILITY DESCRIPTION

Outfall #001 – Inactive Mining Site – SIC #1031
Storm water runoff discharged from tailings piles at an inactive mining site.

Upstream Monitoring Point – In Flat River Creek, 500 feet upstream from Outfall 001.

Downstream Monitoring Point – In Flat River Creek, 500 feet downstream from Outfall 001.
Design flow is 46 MGD.
Actual flow is dependent upon precipitation.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Outfall #001						
Flow	MGD	*		*	once/month	24 hr. estimate
pH - Units	SU	**		**	once/month	grab
Total Suspended Solids	mg/L	*		*	once/month	grab
Settleable Solids	mL/L/hr	2.5		1.5	once/month	grab
Sulfate	mg/L	*		*	once/month	grab
Cadmium, Total Recoverable	ug/L	*		*	once/month	grab
Lead, Total Recoverable	ug/L	*		*	once/month	grab
Zinc, Total Recoverable	ug/L	*		*	once/month	grab
Instream Monitoring Points (See Facility Description)						
Flow	MGD	*		*	once/month	24 hr. estimate
Hardness	mg/L	*		*	once/month	grab
pH - Units	SU	**		**	once/month	grab
Total Suspended Solids	mg/L	*		*	once/month	grab
Sulfate	mg/L	*		*	once/month	grab
Cadmium, Total Recoverable	ug/L	*		*	once/month	grab
Cadmium, Dissolved	ug/L	*		*	once/month	grab
Lead, Total Recoverable	ug/L	*		*	once/month	grab
Lead, Dissolved	ug/L	*		*	once/month	grab
Zinc, Total Recoverable	ug/L	*		*	once/month	grab
Zinc, Dissolved	ug/L	*		*	once/month	grab

MONITORING REPORTS SHALL BE SUBMITTED ANNUALLY; THE FIRST REPORT IS DUE October 28, 2004.

Whole Effluent Toxicity (WET) Test	% Survival	(See Special Conditions) *	once/year	grab

MONITORING REPORTS SHALL BE SUBMITTED ANNUALLY; THE FIRST REPORT IS DUE October 28, 2004. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

B. STANDARD CONDITIONS

IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED Parts I & III STANDARD CONDITIONS DATED October 1, 1980 and August 15, 1994, AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

* Monitoring requirement only.

** pH is measured in pH units and is not to be averaged. The pH is limited to the range of 6.0-9.0 pH units.

C. OTHER REQUIREMENTS

The following statutes and regulations constitute a part of this ARAR:

1. Missouri Clean Water Law, Chapter 644,RSMo. This law establishes requirements relating to water pollution control and authorizes the Missouri Clean Water Commission to further establish rules to maintain and improve the quality of waters in Missouri.

2. Permit Regulations, 10 CSR 20-6.010. These rules establish the administrative and substantive requirements related to wastewater treatment permits. While some of the requirements such as obtaining the permit document are substantially administrative in nature and therefore not required for on-site Superfund actions, other requirements such as characterizing the storm water or wastewater discharged from the site are substantive and necessary for the establishment of water contaminant limitations for the removal or remedial action.

3. Effluent Regulations, 10 CSR 20-7.015. These rules establish the limits that must be met for storm water or wastewater discharges from the site.

4. Water Quality Standards, 10 CSR 20-7.031. These rules establish the classification and beneficial uses of surface and ground waters in Missouri. These requirements are translated into substantive requirements of permits via the effluent regulations noted above.

5. Chapter 260.424 RSMo. Underground injection prohibited.

6. Chapter 577.155 RSMo. Waste disposal wells prohibited.

7. Chapter 578.215 RSMo. Cave or subsurface water, placing structures or substances in violation of Missouri Clean Water Law, prohibited, exceptions.

D. SPECIAL CONDITIONS

1. Within 30 days of receipt of these ARARs, the holder of this ARAR must place permanent markers to identify all sampling points.

2. Best Management Practices (BMPs) to control erosion must be in place before beginning, and during remediation activities in a given drainage. These BMPS may include straw bales, silt fencing and any other measures needed to minimize soil erosion and meet effluent limits.

3. General Criteria. The following water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:

   (a) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses;
   (b) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
   (c) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;

D. SPECIAL CONDITIONS (continued)

3. General Criteria (continued)
   (d) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;
   (e) There shall be no significant human health hazard from incidental contact with the water;
   (f) There shall be no acute toxicity to livestock or wildlife watering;
   (g) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;
   (h) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247.

4. Industrial sludge shall be disposed of at a permitted solid waste disposal facility in accordance with 10 CSR 80; or if sludge is determined to be hazardous, sludge shall be disposed of at a permitted hazardous waste disposal facility in accordance with 10 CSR 25.

5. These ARARs may be modified and reissued to incorporate new or modified effluent limitations or other conditions if the result of a wasteload allocation study, toxicity test, or other information indicates changes are necessary to assure compliance with Missouri’s Water Quality Standards.

6. Whole Effluent Toxicity (WET) tests shall be conducted as follows:

SUMMARY OF WET TESTING FOR THIS PERMIT				
OUTFALL	A.E.C. %	FREQUENCY	SAMPLE TYPE	MONTH
001	100%	once/year	grab	Any month, but report by December or within 30 days, whichever is sooner

   (a) Test Schedule and Follow-Up Requirements

      (1) Perform a single-dilution test in the months and at the frequency specified above. If the effluent passes the test, do not repeat the test until the next test period.
      Submit test results along with complete copies of the test reports as received from the laboratory within 30 calendar days of availability to the WPCP, Water Quality Section, P.O. Box 176, Jefferson City, MO 65102.

      (2) If the effluent fails the test, a multiple dilution test shall be performed within 30 calendar days , and biweekly thereafter, until one of the following conditions are met:

         (a) THREE CONSECUTIVE MULTIPLE-DILUTION TESTS PASS. No further tests need to be performed until next regularly scheduled test period.
         (b) A TOTAL OF THREE MULTIPLE-DILUTION TESTS FAIL.

      (3) The permittee shall submit a summary of all test results for the test series along with complete copies of the test reports as received from the laboratory to the WPCP, Water Quality Section, P.O. Box 176, Jefferson City, MO 65102 within 14 calendar days of the third failed test.

D. SPECIAL CONDITIONS (continued)

6. Whole Effluent Toxicity (WET) tests (continued)

(a) Test Schedule and Follow-Up Requirements (continued)

(4) Additionally, the following shall apply upon failure of the third test: A toxicity identification evaluation (TIE) or toxicity reduction evaluation (TRE) is automatically triggered. The permittee shall contact WPCP, Water Quality Section to ascertain as to whether a TIE or TRE is appropriate . The permittee shall submit a plan for conducting a TIE or TRE to the Water Quality Section of the WPCP within 60 calendar days of the date of DNR's direction to perform either a TIE or TRE. This plan must be approved by DNR before the TIE or TRE is begun. A schedule for completing the TIE or TRE shall be established in the plan approval.

(5) Upon DNR's approval, the TIE/TRE schedule may be modified if toxicity is intermittent during the TIE/TRE investigations. A revised WET test schedule may be established by DNR for this period.

(6) If a previously completed TIE has clearly identified the cause of toxicity, additional TIEs will not be required as long as effluent characteristics remain essentially unchanged and the permittee is proceeding according to a DNR approved schedule to complete a TRE and reduce toxicity. Regularly scheduled WET testing as required in the permit, without the follow-up requirements, will be required during this period.

(7) All failing test results shall be reported to WPCP, Water Quality Section, P.O. Box 176, Jefferson City, MO 65102within 14 calendar days of the availability of the results.

(8) When WET test sampling is required to run over one DMR period, each DMR report shall contain information generated during the reporting period.

(9) Submit a concise summary of all test results with the annual report.

(b) PASS/FAIL procedure and effluent limitations:

(1) To pass a single-dilution test, mortality observed in the AEC test concentration shall not be more than 30% greater (at the 95% confidence level; $p = 0.05$) than that observed in the upstream receiving-water control sample. The appropriate statistical tests of significance will be those outlined in the most current USEPA acute toxicity manual or those specified by the MDNR.

(2) To pass a multiple-dilution test:

(a) the computed percent effluent at the edge of the zone of initial dilution, Acceptable Effluent Concentration (AEC), must be less than three-tenths (0.3) of the LC_{50} concentration for the most sensitive of the test organisms; or,
(b) all dilutions equal to or greater than the AEC must be nontoxic. Failure of one multiple-dilution test is an effluent limit violation.

D. SPECIAL CONDITIONS (continued)

7. Whole Effluent Toxicity (WET) tests (continued)

(c) Test Conditions

(1) Test Type: Acute Static non-renewal

(2) Test species: Ceriodaphnia dubia and Pimephales promelas (fathead minnow). Organisms used in WET testing shall come from cultures reared for the purpose of conducting toxicity tests and cultured in a manner consistent with the most current USEPA guidelines. All test animals shall be cultured as described in the most current edition of Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms.

(3)Test period: 48 hours at the "Acceptable Effluent Concentration" (AEC) specified above.

(4) When dilutions are required, upstream receiving stream water shall be used as dilution water. If upstream water is unavailable or if mortality in the upstream water exceeds 10%, "reconstituted" water will be used as dilution water. Procedures for generating reconstituted water will be supplied by the MDNR upon request.

(5)Single-dilution tests will be run with:
(a) Effluent at the AEC concentration;
(b) 100% receiving-stream water (if available), collected upstream of the outfall at a point beyond any influence of the effluent; and
(c) reconstituted water.

(6) Multiple-dilution tests will be run with:
(a) 100%, 50%, 25%, 12.5%, and 6.25% effluent, unless the AEC is less than 25% effluent, in which case dilutions will be 4 times the AEC, two times the AEC, AEC, 1/2 AEC and 1/4 AEC;
(b) 100% receiving-stream water (if available), collected upstream of the outfall at a point beyond any influence of the effluent; and
(c) reconstituted water.

(7) If reconstituted-water control mortality for a test species exceeds 10%, the entire test will be rerun.

SUMMARY OF TEST METHODOLOGY FOR WHOLE-EFFLUENT TOXICITY TESTS

Whole-effluent-toxicity test required in NPDES permits shall use the following test conditions when performing single or multiple dilution methods. Any future changes in methodology will be supplied to the permittee by the Missouri Department of Natural Resources (MDNR). Unless more stringent methods are specified by the DNR, the procedures shall be consistent with the most current edition of Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms,

Test conditions for Ceriodaphnia dubia:

Test duration:	48 h
Temperature:	25 ± 1°C Temperatures shall not deviate by more than 3°C during the test.
Light Quality:	Ambient laboratory illumination
Photoperiod:	16 h light, 8 h dark
Size of test vessel:	30 mL (minimum)
Volume of test solution:	15 mL (minimum)
Age of test organisms:	<24 h old
No. of animals/test vessel:	5
No. of replicates/concentration:	4
No. of organisms/concentration:	20 (minimum)
Feeding regime:	None (feed prior to test)
Aeration:	None
Dilution water:	Upstream receiving water; if no upstream flow, synthetic water modified to reflect effluent hardness.
Endpoint:	Pass/Fail (Statistically significant Mortality when compared to upstream receiving water control or synthetic control if upstream water was not available at $p \leq 0.05$)
Test acceptability criterion:	90% or greater survival in controls

Test conditions for (Pimephales promelas):

Test duration:	48 h
Temperature:	25 ± 1°C Temperatures shall not deviate by more than 3°C during the test.
Light Quality:	Ambient laboratory illumination
Photoperiod:	16 h light/ 8 h dark
Size of test vessel:	250 mL (minimum)
Volume of test solution:	200 mL (minimum)
Age of test organisms:	1-14 days (all same age)
No. of animals/test vessel:	10
No. of replicates/concentration:	4 (minimum) single dilution method 2 (minimum) multiple dilution method
No. of organisms/concentration:	40 (minimum) single dilution method 20 (minimum) multiple dilution method
Feeding regime:	None (feed prior to test)
Aeration:	None, unless DO concentration falls below 4.0 mg/L; rate should not exceed 100 bubbles/min.
Dilution water:	Upstream receiving water; if no upstream flow, synthetic water modified to reflect effluent hardness.
Endpoint:	Pass/Fail (Statistically significant Mortality when compared to upstream receiving water control or synthetic control if upstream water was not available at $p \leq 0.05$)
Test Acceptability criterion:	90% or greater survival in controls

Reporting Requirements

A discharge monitoring report (DMR) must be submitted annually. The report must include all information required by the effluent limitations and monitoring, and special conditions pages of these ARARs.

When a sample cannot be collected due to insufficient rainfall report as “no discharge”.

The holder of this ARAR shall submit a brief written report describing implementation of BMPs at drainages currently being remediated with each DMR.

Send copies of the DMR to the Department of Natural Resources’ Southeast Regional Office **and** Central Office Water Pollution Control Program.

Exceedence of Limitations

The holder of this ARAR shall also provide written notification to the Water Pollution Control Program’s Central Office within 24 hours of becoming aware of the water quality data indicating limitations have been exceeded. An explanation of actions that will be taken to correct the situation must be included with a schedule for implementation.

Termination of ARARs

Termination of these ARARs requires submitting a written request for termination and a copy of a site closure letter from the MDNR’s Hazardous Waste Program, and subsequent approval from the WPCP.

Representative Sampling

(a) Samples and measurements taken as required herein shall be representative of the nature and volume, respectively, of the monitored discharge. All samples shall be taken at the outfalls(s), and unless specified, before the effluent joins or is diluted by any other body of water or substance.

(b) Monitoring results shall be recorded and reported on forms provided by the Department, postmarked no later than the 28th day of the month following the completed reporting period. Signed copies of these, and all other reports required herein, shall be submitted to the respective Department Regional Office, the Regional Office address is indicated in the cover letter transmitting the Applicable or Appropriate and Relevant Requirements (ARARs).

Definitions

Definitions as set forth in the Missouri Clean Water Law and Missouri Clean Water Commission Definition Regulation 10 CSR 20-2.010 shall apply to terms used herein.

Test Procedures

Test procedures for the analysis of pollutants shall be in accordance with the Missouri Clean Water Commission Effluent Regulation 10 CSR 20-7.015.

Recording of Results

(a) For each measurement or sample taken pursuant to the requirements of these ARARs, the applicant shall record the following information:

(i) The date, exact place, and time of sampling or measurements;
(ii) The individual(s) who performed the sampling or measurements;
(iii) The date(s) analyses were performed;
(iv) The individual(s) who performed the analyses;
(v) The analytical techniques or methods used; and
(vi) The results of such analyses.

(b) The Federal Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

(c) Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Director in these ARARs.

Additional Monitoring by Permittee

If the holder of this ARAR monitors any pollutant at the location(s) designated herein more frequently than required using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Monitoring Report Form. Such increased frequency shall also be indicated.

Records Retention

The holder of this ARAR shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required, and records of all data used to complete the application for a period of at least 3 years from the date of the sample, measurement, report of application. This period may be extended by request of the Department at any time.

Change in Discharge

(a) All discharges authorized herein shall be consistent with the terms and conditions of these ARARs. The discharge of any pollutant not authorized by herein or of any pollutant identified herein more frequently than or at a level in excess of that authorized shall constitute a violation of these ARARs.

(b) Any facility expansions, production increases, or process modifications which will result in new, different, or increased discharges of pollutants shall be reported by submission of a new NPDES application at least sixty (60) days before such changes, or, if they will not violate the effluent limitations specified, by notice to the Department at least thirty (30) days before such changes.

Noncompliance Notification

(a) If, for any reason, the holder of this ARAR does not comply with or will be unable to comply with any daily maximum effluent limitation specified in these ARARs, the applicant shall provide the Department with the following information, in writing within five (5) days of becoming aware of such condition:

(i) A description of the discharge and cause of noncompliance, and
(ii) The period of noncompliance, including exact dates and times or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the non-complying discharge.

(b) Twenty-four hour reporting. The applicant shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the holder of this ARAR becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the applicant becomes aware of the circumstances. The Department may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

Facilities Operation

The holder of this ARAR shall operate and maintain facilities to comply with the Missouri Clean Water Law and applicable ARARs conditions. Operators of wastewater treatment facilities, water contaminant source or point sources, shall, upon request by the department, demonstrate that wastewater treatment equipment and facilities are effectively operated and maintained by competent personnel.

Adverse Impact

The holder of this ARAR shall take all necessary steps to minimize any adverse impact to waters of the state resulting from noncompliance with any effluent limitations specified in these ARARs or set forth in the Missouri Clean Water Law and Regulations (hereinafter the Law and Regulations), including such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge.

Bypassing

(a) Any bypass or shut down of a wastewater treatment facility and tributary sewer system or any part of such a facility and sewer system that results in a violation of ARARs limits or conditions is prohibited except:

(i) Where unavoidable to prevent loss of life, personal injury, or severe property damages; and
(ii) Where unavoidable excessive storm drainage or runoff would catastrophically damage any facilities or processes necessary for compliance with the effluent limitations and conditions of these ARARs.
(iii) Where maintenance is necessary to ensure efficient operation and alternative measures have been taken to maintain effluent quality during the period of maintenance.

Removed Substances

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutants from entering waters of the state unless permitted by the Law, and permanent record of the date and time, volume and methods of removal and disposal of such substances shall be maintained by the holder of this ARAR.

Right of Entry

For the purpose of inspecting, monitoring, or sampling the point source, water contaminant source, or wastewater treatment facility for compliance with the Clean Water law and these regulations, authorized representatives of the department, shall be allowed by the holder of this ARAR, upon presentation of credentials and at reasonable times;

(a) to enter upon premises in which a point source, water contaminant source, or wastewater treatment facility is located or in which any records are required to be kept under terms and conditions of these ARARs;
(b) to have access to, or copy, any records required to be kept under terms and conditions of these ARARs;
(c) to inspect any monitoring equipment or method required;
(d) to inspect any collection, treatment, or discharge facility covered under the ARARs; and
(e) to sample any wastewater at any point in the collection system of treatment process.

Availability of Reports

Except for data determined to be confidential under Section 308 or the Act, and the Law and Missouri Clean Water Commission Regulation for Public Participation, Hearings and Notice to Governmental Agencies 10 CSR 20-6.020, all reports prepared in accordance with the terms of these ARARs shall be available for public inspection at the offices of the Department. As required by statute, effluent data shall not be considered confidential. Knowingly making any false statement on any such report shall be subject to the imposition of criminal penalties as provided for in Section 204.076 of the Law.

Oil and Hazardous Substance Liability

Nothing in these ARARs shall be construed to preclude the institution of any legal action or relieve the applicant from any responsibilities, liabilities, or penalties to which the holder of this ARAR is or may be subject under Section 311 of the Act, and the Law and Regulations. Oil and hazardous materials discharges must be reported in compliance with the requirements of the Federal Clean Water Act.

State Laws

Nothing in these ARARs shall be construed to preclude the institution of any legal action or relieve the applicant from any responsibilities, liabilities of penalties established pursuant to any applicable state statute or regulations.

Property Rights

The issuance of these ARARs does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of or violation of federal, state or local laws or regulations.

Toxic Pollutants

If a toxic effluent standard, prohibition, or schedule of compliance is established under section 307(a) of the Federal Clean Water Act for a toxic pollutant in the discharge of the holder of this ARAR’s facility and such standard is more stringent than the limitations in the ARARs, then the more stringent standard, prohibition, or schedule shall be incorporated into these ARARs as one of its conditions, upon notice to the holder of this ARAR.

Signatory requirement

All reports, or information submitted to the Director shall be signed (See 40 CFR-122.6).

Severability

The provisions of these ARARs are severable, and if any provision of these ARARs, or the application of any provision of these ARARs to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of these ARARs, shall not be affected thereby.

Applicable or Relevant and Appropriate Requirements (ARARs)
FACT SHEET

This Fact Sheet explains the applicable regulations and rationale for development.

ARAR NUMBER: MO-ARAR012

FACILITY NAME: Doe Run, Lead Belt Materials Company

OWNER NAME: The Doe Run Resources Corp., Southeast Missouri Mining & Milling Division

LOCATION: All parts of Sec. 12, T36N, R4E and Sec. 7, T36N, R5E COUNTY: St. Francois

RECEIVING STREAM: Unnamed Tributary to Flat River Creek

FACILITY CONTACT PERSON: John Carter TELEPHONE: (314) 244-8152

FACILITY DESCRIPTION AND RATIONALE

The Doe Run Resources Corporation, Southeast Missouri Mining & Milling Division, P.O. Box 500, Viburnum, MO 65566 has applied for ARARs (stormwater discharge permit) for the facility known as Doe Run, Lead Belt Materials Company

This facility is an inactive mining site with Standard Industrial Classification (SIC) code #1031. Requested authorization is for stormwater discharge.

The beneficial water uses (as listed in 10 CSR 20-7.031) are: livestock and wildlife watering, protection of warm-water aquatic life and human health - fish consumption, whole body contact recreation, and industrial.

RATIONALE FOR LIMITATIONS

In order to protect these beneficial uses and the water quality of surface waters and groundwater, ARARs are being established under federal and state laws. The monitoring requirements for all parameters have been established by the Department in compliance with 10 CSR 20-7.015 Effluent Regulation.

The current Department effluent regulations 10 CSR 20-7.015 states that non-domestic waste discharges "shall meet the applicable control technology currently effective or that which will become effective during the life of the permit. Where this definition is not available or applicable the Department shall set specific parameter limitations using best engineering judgment as defined in 402(a)(1) of the Federal Clean Water Act".

Monitoring is being required on parameters known or suspected to be present in order to obtain information on the effects of discharges. Best Management Practices are required to complement the monitoring in order to insure that pollutant sources are as isolated from water as is feasible.

Standards for toxic metals are as recommended in the “Water Quality Review Sheet” and will be used to assess impacts on the receiving stream. Should in-stream “water quality criteria not consistently meet standards” the ARARs will be modified.

Reviewer: Richard J. Laux
DATE: July 30, 2003

WATER QUALITY REVIEW SHEET
Determination of Water Quality Based Discharge Requirements

FACILITY INFORMATION

Facility Name: Doe Run, Lead Belt Materials ARAR#: MO-ARAR012

Facility Type/Description: Inactive Mining Site

8-Digit HUC: 07140104 County: St. Francois

Legal Description: Sec. 12, T36N, R4E

Latitude/Longitude: 37° 50′ 35.6″ / -90° 32′ 24.5″

Water Quality History And Special Problems: Flat River Creek has a history of water quality problems/concerns related to abandoned lead/zinc mining operations, such as this site and others near by.

OUTFALL CHARACTERISTICS

Outfall	Design Flow (Cfs)	Treatment Type	Receiving Waterbody	Main Contaminant Of Concern
001	71.3	Runoff	Trib. to Flat River Cr.	Metals, Hydrocarbons

RECEIVING WATERBODY INFORMATION

Waterbody	Class	7q10(Cfs)	*Designated Uses	Other Characteristics
Trib to Flat River Creek	U	0.0	N/A	

*Cool water fishery (clf), cold water fishery (cdf), irrigation (irr), industrial (ind), boating & canoeing (btg), drinking water supply (dws), whole body contact recreation (wbc), protection of warmwater aquatic life and human health (aql), livestock & wildlife watering (lww)

Comments: Flat River Creek was placed on the 1998 303(d) list in part as a result of discharge from this facility and a number of others in the area including the tailing areas at St. Joe State Park.

PERMIT LIMITS AND INFORMATION

TMDL Watershed: Yes X No _ Disinfection Waiver: Yes ___ No ___ NA X
W.L.A. Study Conducted: Yes ___ No X 303d Waterbody: Yes X No ___ NA _
Disinfection Required: Yes ___ No X Violations: Yes ___ No X

Outfall # 001

Wet Test: Yes X No _ Frequency: 1/year A.E.C. 100% Limit: Monitoring Only

PARAMETER	Daily Maximum	Weekly Average	Monthly Average
Flow (MGD)	*		*
Precipitation (in.)	*		*
pH (SU)	6 – 9		
Oil and grease (mg/l)	15		10
Settleable Solids (ml/l/hr)	*		*
Sulfate (mg/l)	*		*
Chloride (mg/l)	*		*
Hardness (mg/l)	*		*
Aluminum, Total Recoverable (mg/l)	*		*
Lead, Total Recoverable (mg/l)	*		*
Zinc, Total Recoverable (mg/l)	*		*
Cadmium (mg/l)	*		*

RECEIVING WATER MONITORING REQUIREMENTS - In-stream monitoring activities should continue with the addition of hardness as a measurement parameter. Hardness is requested due to relationship between hardness and metal toxicity. In-stream monitoring should be conducted concurrently with outfall 001 sampling.

Site - Upstream

Parameter(s)	Sampling Frequency	Sample Type	Location
Hardness	once/month	grab	500’ Upstream from Outfall 001 in Flat River Creek
Cadmium, Total Recoverable & Dissolved	once/month	grab	
Lead, Total Recoverable & Dissolved	once/month	grab	
Zinc, Total Recoverable & Dissolved	once/month	grab	
Sulfate	once/month	grab	
pH	once/month	grab	

Site - Downstream

Parameter(S)	Sampling Frequency	Sample Type	Location
Hardness	once/month	grab	500’ Downstream from Outfall 001 in Flat River Creek
Cadmium, Total Recoverable & Dissolved	once/month	grab	
Lead, Total Recoverable & Dissolved	once/month	grab	
Zinc, Total Recoverable & Dissolved	once/month	grab	
Sulfate	once/month	grab	
pH	once/month	grab	

WET TESTS - Due to 303(d) impairments, yearly WET tests shall be required. Minimal upstream dilution; A.E.C. = 100%, species = *Pimephales promelas* & *Ceriodaphnia dubia*. Due to the sensitivity of *Ceriodaphnia Dubia* to Zinc, a slightly higher mortality rate of 30% will be used as the pass/fail criterion.

PH - See 10 CSR 20-7.031(4)(E)

OIL AND GREASE – See 10 CSR 20-7.031 Table A

SETTLEABLE SOLIDS – Monitoring data will be evaluated to determine compliance with stream standards. BMPs to control erosion will be the principle controls provided during this term on the ARARs.

Reviewer: Richard J. Laux, R.G.
Date: September 25, 2003
Unit Chief: Richard J. Laux, R.G.

Monitoring and effluent limits contained within this document have been developed in accordance with EPA guidelines using the best available data and are believed to be consistent with Missouri's Water Quality Standards and Effluent Regulations. If additional water quality data or anecdotal information are available that may affect the recommended monitoring and effluent limits, please forward these data and information to the author.